We claim

1. A polyethylene composition with multimodal molecular mass distribution, which has a density in the range of from 0.949 to 0.955 g/cm³ at 23 °C and a $MFI_{190/5}$ in the range from 0.1 to 0.3 dg/min or a $MFI_{190/21.6}$ in the range of 4 to 6 dg/min, and which comprises from 38 to 45 % by weight of a low-molecular-mass ethylene homopolymer A, from 30 to 40 % by weight of a high-molecular-mass copolymer B made from ethylene and from another 1-olefin having from 4 to 8 carbon atoms, and from 18 to 26 % by weight of an ultrahigh-molecular-mass ethylene copolymer C, wherein all of the percentage data are based on the total weight of the molding composition.

2. A polyethylene composition as claimed in claim 1, wherein the high-molecular-mass copolymer B contains small proportions of from 0.1 to 0.2 % by weight of co-monomer having from 4 to 8 carbon atoms, based on the weight of copolymer B, and wherein the ultrahigh-molecular-mass ethylene copolymer C contains an amount in the range from 2 to 3 % by weight of co-monomers, based on the weight of copolymer C.

3. A polyethylene composition as claimed in claim 1 or 2, which, as co-monomer, contains 1-butene, 1-pentene, 1-hexene, 1-octene, 4-methyl-1-pentene, or a mixture of these.

4. A polyethylene composition as claimed in one or more of claims 1 to 3, which has a viscosity number VN_{tot} in the range of from 460 to 500 cm³/g measured to ISO/R 1191 in decalin at 135 °C.

5. A polyethylene composition as claimed in one or more of claims 1 to 4, which has a swell ratio index in the range of from 175 to 205 %, and a notched impact strength (ISO) in the range of from 30 to 60 kJ/m², and a stress-crack resistance (FNCT) in the range of from 60 to 110 h.

6. A process for producing a polyethylene composition as claimed in one or more of claims 1 to 5, in which the monomers are polymerized in slurry in a temperature range of from 60 to 90 °C at a pressure in the range of from 0.15 to 1 MPa, and in the presence of a high-mileage Ziegler catalyst composed of a transition metal compound and of an organoaluminum compound, which comprises conducting polymerization in three stages, where the molecular mass of the polyethylene prepared in each stage is regulated with the aid of hydrogen.

7. A process as claimed in claim 6, wherein the hydrogen concentration in the first polymerization stage is adjusted so that the viscosity number VN_1 of the low-molecular-weight polyethylene A is in the range of from 160 to 220 cm³/g.

8. A process as claimed in claim 6 or 7, wherein the hydrogen concentration in the second polymerization stage is adjusted so that the viscosity number VN_2 of the mixture of polymer A and polymer B is in the range of from 250 to 300 cm³/g.

9. A process as claimed in any of claims 6 to 8, wherein the hydrogen concentration in the third polymerization stage is adjusted so that the viscosity number VN_3 of the mixture of polymer A, polymer B, and polymer C is in the range of from 460 to 500 cm³/g.

10. The use of a polyethylene composition as claimed in one or more of claims 1 to 5 for producing large blow moldings, such as containers, with a capacity in the range of from 10 to 150 dm³ (l), wherein the polyethylene

molding composition is first plasticized in an extruder in a temperature range of from 200 to 250 °C and is then extruded through a die into a blow mold, where it is blown up and then cooled and solidified.

* * * * *